using said analog random signal and said clock signal to produce a binary true random sequence of signals; and

interfacing said binary true random sequence of signals to a computer; and

utilizing said true random sequence of signals in said computer.

42. A method as in claim 41 wherein said step of providing an analog random signal comprises a step of providing a source of thermal noise.

43. A method as in claim 41 wherein said step of providing a clock signal comprises providing an oscillator signal.

44. A method as in claim 41 and further including the step of reducing randomness defects in said true random sequence of binary signals.

45. A method as in claim 41 and further including the step of amplifying said analog random signal prior to said step of using.

46. A true random number generator system comprising:

a source of analog random signals;

a source of a clock signal;

a sampler for producing a binary true random sequence of signals from said analog random signals and said clock signal;

a computer for utilizing said binary true random sequence of signals; and

an interface for applying said binary true random sequence of signals to said computer.

47. A true random number generator system as in claim 46 wherein said source of analog random signals comprises a thermal noise source.

48. A true random number generator system as in claim 46 wherein said source of a clock signal includes an oscillator.

49. A true random number generator system as in claim 46 and further including a randomness corrector for reducing randomness defects in said binary true random sequence of signals.

50. A true random number generator system as in claim 49 wherein said randomness corrector comprises a system for performing an EXCLUSIVE OR function.

51. A true random number generator system comprising:

a hardware device for producing a binary true random sequence of signals;

a randomness corrector for reducing randomness defects in said binary true random sequence of signals;

a computer for utilizing said binary true random sequence of signals; and

an interface for applying said binary true random sequence of signals to said computer.

52. A true random number generator system as in claim 51 wherein said randomness corrector comprises a system for performing an EXCLUSIVE OR function.

53. A true random number generator system comprising:

a hardware device for producing a binary true random sequence of signals; and

a computer for utilizing said binary true random sequence of signals;

wherein $|B_2| \leq 0.002$ and $|SD(t)| \leq 0.0004$, where B_2 is the fractional bias in the 1, 0 probability of said binary true random sequence of signals and SD(t) is the serial dependence as a function time of said binary true random sequence of signals.

54. A true random number generator system as in claim 53 wherein: $|B_2| \leq 0.0004$; and $|SD(t)| \leq 3.2 \times 10^{-7}$.

55. A true random number generator system as in claim 53 wherein: $|B_2| \leq 3.2 \times 10^{-7}$ and $|SD(t)| \leq 2.05 \times 10^{-13}$.

56. A method of producing a series of high quality true random numbers, said method comprising the steps of:

producing a binary true random sequence of signals in which $|B_2| \leq 0.002$ and $|SD(t)| \leq 0.0004$, where B_2 is the fractional bias in the 1, 0 probability of said binary true random sequence of signals and SD(t) is the serial dependence as a function time of said binary true random sequence of signals;

interfacing said binary true random sequence of signals to a computer; and

utilizing said binary true random sequence of signals in said computer.

57. A method of producing a series of true random numbers, said method comprising: